

WEST Search History

DATE: Wednesday, April 09, 2003

| <u>Set Name</u> | <u>Query</u> | <u>Hit Count</u> | <u>Set Name</u> |
|---------------------------------------|--|------------------|-----------------|
| side by side | | | result set |
| <i>DB=USPT,PGPB; PLUR=YES; OP=ADJ</i> | | | |
| L10 | L9 and l6 | 6 | L10 |
| L9 | L8 and (dna or cdna or nucleotide or polynucleotide or nucleic acid) | 8 | L9 |
| L8 | L7 and (corynebacteria or corynebacteria glutamicum) | 8 | L8 |
| L7 | diaminopimelate epimerase | 20 | L7 |
| L6 | l5 or l4 or l3 or l2 or l1 | 12346 | L6 |
| L5 | ((((536/23.2)!.CCLS.)) | 6579 | L5 |
| L4 | ((((435/252.32)!.CCLS.)) | 118 | L4 |
| L3 | ((((435/252.3)!.CCLS.)) | 6662 | L3 |
| L2 | ((((435/233)!.CCLS.)) | 170 | L2 |
| L1 | ((435/183)!.CCLS.) | 2689 | L1 |

END OF SEARCH HISTORY

WEST[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 6 of 6 returned.**☐ 1. Document ID: US 20030049804 A1

L10: Entry 1 of 6

File: PGPB

Mar 13, 2003

PGPUB-DOCUMENT-NUMBER: 20030049804

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030049804 A1

TITLE: Corynebacterium glutamicum genes encoding metabolic pathway proteins

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KMIC | Draw Desc |
|-------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|--------|------|-----------|
| Image | | | | | | | | | | | | |

☐ 2. Document ID: US 20020120116 A1

L10: Entry 2 of 6

File: PGPB

Aug 29, 2002

PGPUB-DOCUMENT-NUMBER: 20020120116

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020120116 A1

TITLE: ENTEROCOCCUS FAECALIS POLYNUCLEOTIDES AND POLYPEPTIDES

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KMIC | Draw Desc |
|-------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|--------|------|-----------|
| Image | | | | | | | | | | | | |

☐ 3. Document ID: US 20010049123 A1

L10: Entry 3 of 6

File: PGPB

Dec 6, 2001

PGPUB-DOCUMENT-NUMBER: 20010049123

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20010049123 A1

TITLE: Nucleotide sequences encoding the dapC gene and process for the production of L-lysine

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KMIC | Draw Desc |
|-------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|------|-----------|
| Image | | | | | | | | | | | |

☐ 4. Document ID: US 6537558 B2

L10: Entry 4 of 6

File: USPT

Mar 25, 2003

US-PAT-NO: 6537558

DOCUMENT-IDENTIFIER: US 6537558 B2

TITLE: Methods of producing and using virulence attenuated poxR mutant bacteria

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments |
|-------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|
| Image | | | | | | | | | |

| | |
|------|-----------|
| KIMC | Draw Desc |
|------|-----------|

☐ 5. Document ID: US 6040160 A

L10: Entry 5 of 6

File: USPT

Mar 21, 2000

US-PAT-NO: 6040160

DOCUMENT-IDENTIFIER: US 6040160 A

**** See image for Certificate of Correction ****

TITLE: Method of producing L-lysine by fermentation

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments |
|-------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|
| Image | | | | | | | | | |

| | |
|------|-----------|
| KIMC | Draw Desc |
|------|-----------|

☐ 6. Document ID: US 4980285 A

L10: Entry 6 of 6

File: USPT

Dec 25, 1990

US-PAT-NO: 4980285

DOCUMENT-IDENTIFIER: US 4980285 A

TITLE: Method for producing L-amino acids

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments |
|-------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|
| Image | | | | | | | | | |

| | |
|------|-----------|
| KIMC | Draw Desc |
|------|-----------|

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| Terms | Documents |
|-----------|-----------|
| L9 and l6 | 6 |

Display Format:

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=> s diaminopimelate epimerase/cn
L1 1 DIAMINOPIMELATE EPIMERASE/CN

=> d

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 9024-22-0 REGISTRY
CN Epimerase, diaminopimelate (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Diaminopimelate epimerase**
CN E.C. 5.1.1.7
CN LL-diaminopimelate epimerase
MF Unspecified
CI MAN
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, TOXCENTER,
USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
51 REFERENCES IN FILE CA (1962 TO DATE)
51 REFERENCES IN FILE CAPLUS (1962 TO DATE)

=> d full his

(FILE 'HOME' ENTERED AT 15:57:54 ON 09 APR 2003)

FILE 'REGISTRY' ENTERED AT 15:58:03 ON 09 APR 2003

L1 1 SEA ABB=ON PLU=ON DIAMINOPIMELATE EPIMERASE/CN
D

FILE 'REGISTRY' ENTERED AT 16:01:55 ON 09 APR 2003

FILE 'HCAPLUS' ENTERED AT 16:01:59 ON 09 APR 2003

FILE 'REGISTRY' ENTERED AT 16:03:39 ON 09 APR 2003

L2 SET SMARTSELECT ON
SEL PLU=ON L1 1- CHEM : 4 TERMS
SET SMARTSELECT OFF

FILE 'HCAPLUS' ENTERED AT 16:03:39 ON 09 APR 2003

L3 61 SEA ABB=ON PLU=ON L2
L4 4 SEA ABB=ON PLU=ON L3 (L) (CORYNEBACTERIA OR CORYNEBACTERIA
GLUTAMICUM OR (BACTERIA (L) CORYNEFORM))
L5 1 SEA ABB=ON PLU=ON L4 (L) (DNA OR CDNA OR NUCLEOTIDE OR
POLYNUCLEOTIDE OR NUCLEIC ACID)

=> d 14 ibib ab 1-4

L4 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:709790 HCAPLUS

DOCUMENT NUMBER: 135:283989

TITLE: Corynebacterium dapC gene and transaminase and recombinant coryneform bacteria for L-lysine preparation

INVENTOR(S): Moeckel, Bettina; Weissenborn, Anke; Pfefferle, Walter; Hartmann, Michael; Kalinowski, Joern; Puehler, Alfred

PATENT ASSIGNEE(S): Degussa-Huels A.-G., Germany

SOURCE: Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|----------|
| EP 1136559 | A2 | 20010926 | EP 2001-103850 | 20010216 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| DE 10014546 | A1 | 20010927 | DE 2000-10014546 | 20000323 |
| CA 2339307 | AA | 20010923 | CA 2001-2339307 | 20010321 |
| AU 2001028163 | A5 | 20020725 | AU 2001-28163 | 20010321 |
| JP 2001299372 | A2 | 20011030 | JP 2001-83004 | 20010322 |
| CN 1319668 | A | 20011031 | CN 2001-110011 | 20010322 |
| US 2001049123 | A1 | 20011206 | US 2001-813919 | 20010322 |
| BR 2001001151 | A | 20011030 | BR 2001-1151 | 20010323 |

PRIORITY APPLN. INFO.: DE 2000-10014546 A 20000323

AB The dapC gene and encoded succinyldiaminoketopimelate transaminase of Corynebacterium glutamicum are disclosed. This gene may be expressed in coryneform bacteria, optionally with another gene or genes, in order to produce recombinant bacteria with enhanced prodn. of L-amino acids. Thus, C. glutamicum overexpressing the dapC gene produced more L-lysine than did the parent strain (14.7 vs. 13.7 g/L).

L4 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:261140 HCAPLUS

DOCUMENT NUMBER: 134:292681

TITLE: The eno gene of Corynebacterium glutamicum and its use in increasing yields of lysine in fermentation

INVENTOR(S): Mockel, Bettina; Pfefferle, Walter; Hermann, Thomas; Puhler, Alfred; Kalinowski, Jorn; Bathe, Brigitte

PATENT ASSIGNEE(S): Degussa-Huls Aktiengesellschaft, Germany

SOURCE: Eur. Pat. Appl., 25 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|----------|
| EP 1090998 | A1 | 20010411 | EP 2000-121158 | 20000929 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| DE 19947791 | A1 | 20010412 | DE 1999-19947791 | 19991005 |
| CN 1290750 | A | 20010411 | CN 2000-129571 | 20000927 |
| BR 2000004643 | A | 20010612 | BR 2000-4643 | 20001004 |
| JP 2001161380 | A2 | 20010619 | JP 2000-305110 | 20001004 |

PRIORITY APPLN. INFO.: DE 1999-19947791 A 19991005

AB The eno gene of Corynebacterium glutamicum ATCC13032 encoding a **diaminopimelate epimerase** is cloned and characterized for use in increasing the efficiency of fermn. of lysine by **coryneform bacteria**. The gene was identified by

querying a C. glutamicum sequence database for homologs of known genes. The gene was expressed in C. glutamicum using the prior art plasmid pEC-XT99A as expression vector. Overexpression of the gene in C. glutamicum resulted in lysine yields of 16.5 g lysine/L at an OD660 of 7.5 compared 15.5 g lysine/L at an OD660 of 7.2 for control cells transformed with pEC-XT99A vector only.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:179721 HCAPLUS

DOCUMENT NUMBER: 134:234271

TITLE: The dapF gene of Corynebacterium glutamicum and its use in increasing yields of lysine in fermentation
INVENTOR(S): Kirchner, Oliver; Bathe, Brigitte; Moeckel, Bettina; Hartmann, Michael; Kalinowski, Joern; Puehler, Alfred; Pfefferle, Walter

PATENT ASSIGNEE(S): Degussa-Huels Ag, Germany

SOURCE: Ger. Offen., 18 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|----------|
| DE 19943587 | A1 | 20010315 | DE 1999-19943587 | 19990911 |
| EP 1085094 | A2 | 20010321 | EP 2000-115901 | 20000725 |
| EP 1085094 | A3 | 20030115 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| JP 2001095593 | A2 | 20010410 | JP 2000-273705 | 20000908 |
| BR 2000004059 | A | 20011002 | BR 2000-4059 | 20000908 |
| CN 1288055 | A | 20010321 | CN 2000-124486 | 20000911 |

PRIORITY APPLN. INFO.: DE 1999-19943587 A 19990911

AB The dapF gene of Corynebacterium glutamicum ATCC13032 encoding a **diaminopimelate epimerase** is cloned and characterized for use in increasing the efficiency of ferment. of lysine by **coryneform bacteria**. The gene was identified by querying a C. glutamicum sequence database for homologs of known dapF genes. The gene was expressed in C. glutamicum using the prior art plasmid pEC-XT99A as expression vector. Overexpression of the gene in C. glutamicum resulted in lysine yields of 13.5 g lysine/L at an OD660 of 9.1 compared 11.9 g lysine/L at an OD660 of 8.2 for parental (control) cells.

L4 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:688343 HCAPLUS

DOCUMENT NUMBER: 133:265706

TITLE: L-lysine biosynthesis in genetically engineered **coryneform bacteria** with enhanced **diaminopimelate epimerase** activity

INVENTOR(S): Sugimoto, Masakazu; Ito, Hisao; Kurahashi, Osamu

PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan

SOURCE: PCT Int. Appl., 28 pp.

CODEN: PIXXD2



DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| WO 2000056858 | A1 | 20000928 | WO 2000-JP1654 | 20000317 |
| W: AE, AG, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, DZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KR, LC, LK, LR, LT, LV, MA, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, | | | | |

DK, ES, FI, FR, GB, GR,  E, IT, LU, MC, NL, PT, SE, BF,  CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

JP 1999-76379 A 19990319

AB L-Lysine biosynthesis using genetically engineered **coryneform**
bacteria with enhanced **diaminopimelate epimerase**
(dapF gene) activity is disclosed. The **diaminopimelate**
epimerase activity can be enhanced by increasing the copy no. of
dapF gene. **Coryneform bacteria** may also have
aspartokinase (gene lysC), dihydrodipicolinate reductase (gene dapB),
dihydrodipicolinate synthetase (gene dapA), or diaminopimelate
decarboxylase (gene lysA) activity increased. A plasmid carrying the
mutant gene lysC and genes dapA, dapB, ddh, lysA, and dapF was prepd. and
introduced into *Brevibacterium lactofermentum* strain AJ11082. The
transformants were able to grow well and produce significantly more
L-lysine, 44.9 - 48.5 g/L after 72-h culture, as compared to 29.8 for that
of the parental strain.

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

STIC-Biotech/ChemLib

91140

From: Chan, Christina
Sent: Wednesday, April 09, 2003 2:56 PM
To: Fronda, Christian; STIC-Biotech/ChemLib
Subject: RE: Rush Search for Serial No.09/606,740

Please rush. Thanks Chris

Chris Chan
TC 1600 New Hire Training Coordinator and SPE 1644
308-3973
CM-1, 9B19

-----Original Message-----

From: Fronda, Christian
Sent: Wednesday, April 09, 2003 2:36 PM
To: Chan, Christina
Subject: Rush Search for Serial No.09/606,740
Importance: High

I would like to request a Rush Search for Serial No. 09/606,740 as listed below since it is an amended case now requiring a search. Thank you.

Christian Fronda
Art Unit 1652
Mailbox CM1 10D01
Office CM1 11E03
(703)305-1252

Please perform sequence search and interference search for Serial No. 09/606,740

1. Please search SEQ ID No: 1 against nucleic acid commercial and interference databases including pending and issued.
2. Please search SEQ ID No: 2 against nucleic acid commercial and interference databases including pending and issued.
3. Please perform OLIGO search for SEQ ID NO: 1 against nucleic acid commercial and interference databases including pending and issued.

Please save on COMPUTER DISKETTES.

Please save results from interference data base search on different diskettes from th commercial and issued search results.

Thank you very much.

Christian Fronda
Art Unit 1652

Edward Han
Technical Info. Specialist
STIC/Biotech
CMI 6B02 Tel: 305-9203

Searcher: _____
Phone: _____
Location: _____
Date Picked Up: 4/10/03
Date Completed: 4/14/03
Searcher Prep/Review: _____
Clerical: _____
Online time: _____

TYPE OF SEARCH:
NA Sequences: 7
AA Sequences: 7 - reverse to NA
Structures: _____
Bibliographic: _____
Litigation: _____
Full text: _____
Patent Family: _____
Other: _____

VENDOR/COST (where applic.)
STN: _____
DIALOG: _____
Questel/Orbit: _____
DRLink: _____
Lexis/Nexis: 05
Sequence Sys.: _____
WWW/Internet: _____
Other (specify): _____

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NA Sequences: _____
AA Sequences: _____
Structures: _____
Bibliographic: _____
Litigation: _____
Full text: _____
Patent Family: _____
Other: _____

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STN: _____
DIALOG: _____
Questel/Orbit: _____
DRLink: _____
Lexis/Nexis: _____
Sequence Sys.: _____
WWW/Internet: _____
Other (specify): _____

Dear Examiner:

The GenEmbl database has been temporarily split into two parts on the machine we refer to as ABSS05. Your search was run on ABSS05. You will find in this packet two sets of results that contain hits from GenEmbl. These have the extensions **.rgenhg** and **.rgenohg**. Rest assured that your query sequence has been searched against GenEmbl in its entirety.

If you have any questions about these results, please contact the person who performed this search (searcher's name, location, and phone number are stamped on the search request form).

Pending Nucleic Acid and/or Pending Amino Acid database searches now generate two sets of results. These databases were split into two parts to reduce the time needed to update the databases daily. The split freed up more machine time for processing searches.

Searches run against the Nucleic Acid Pending database produce two sets of results, with the extensions, **.rnpm** and **.rnpn**

Searches run against the Amino Acid Pending database produce two sets of results, with the extensions, **.rapm** and **.rapn**

The Pending database search results should not be left in the case because they contain data that is confidential.

BioTech-Chem Library

Search Results

Feedback Form (Optional)



Scientific & Technical Inform

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the Bio1 searcher* who conducted the search *or contact*:

Mary Hale, Supervisor,
CM-1 Room 1E01

Voluntary Results Feedback Form

➤ *I am an examiner in Workgroup:* (Example: 1610)

➤ *Relevant prior art found, search results used as follows:*

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ *Relevant prior art not found:*

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Search results were not useful in determining patentability or understanding the

Other Comments:

Drop off completed forms at the Circulation Desk CM-1, or send to Mary Hale, CM1-1E01 or mary.hale@uspto.gov